

Fig. 1 (a)

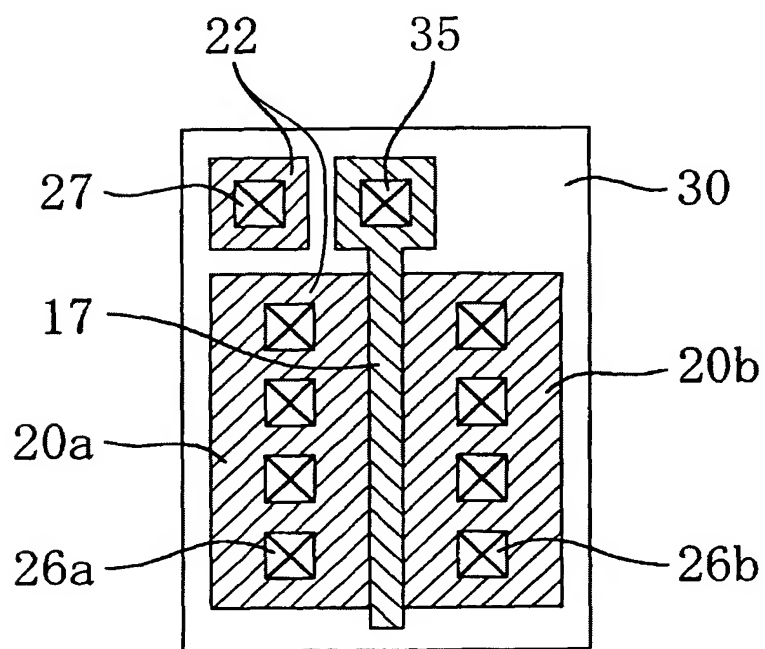


Fig. 1 (b)

Fig. 2(a)

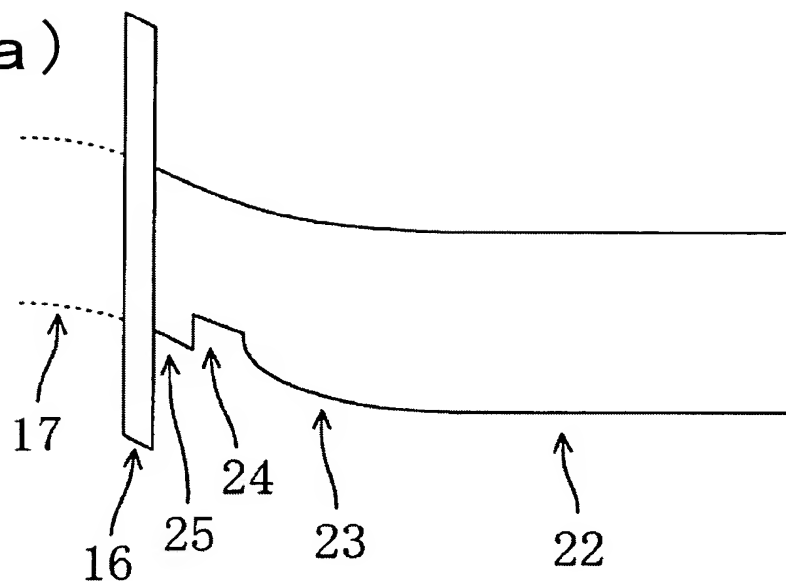


Fig. 2(b)

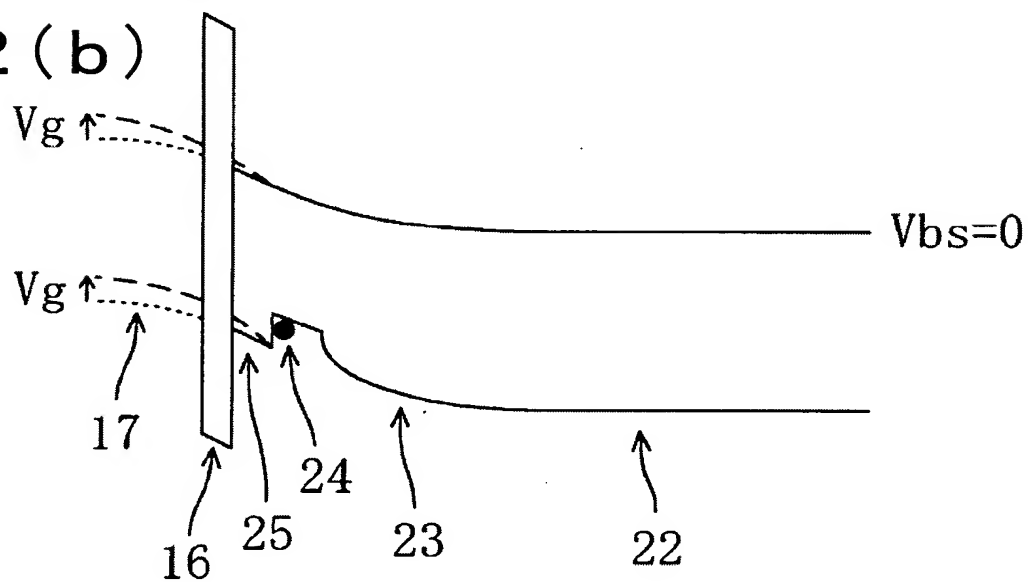
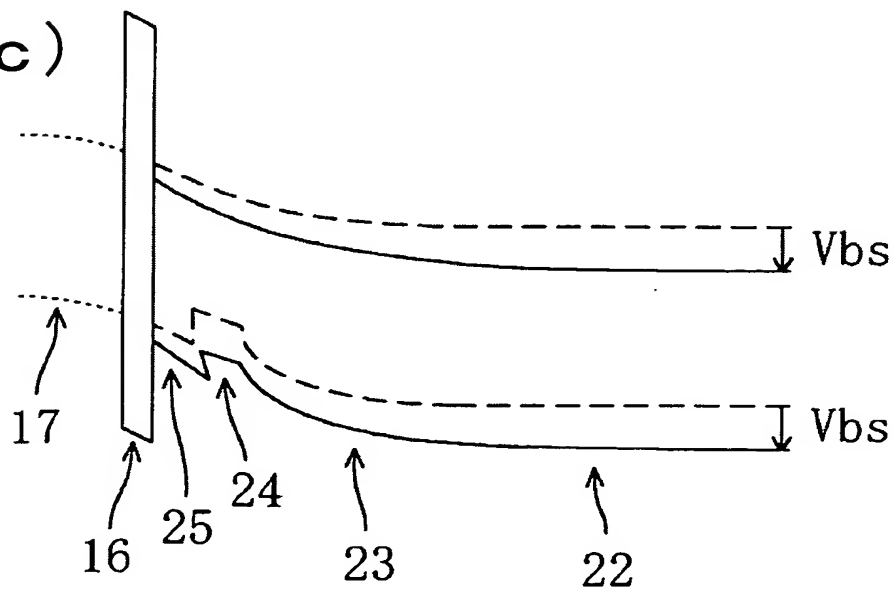
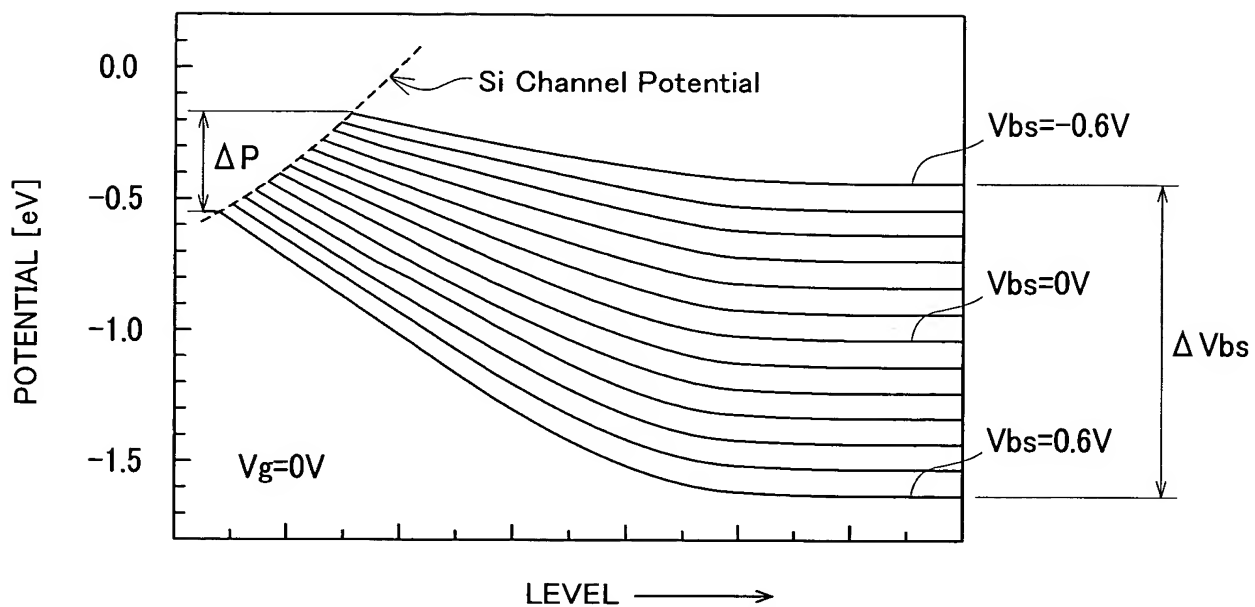
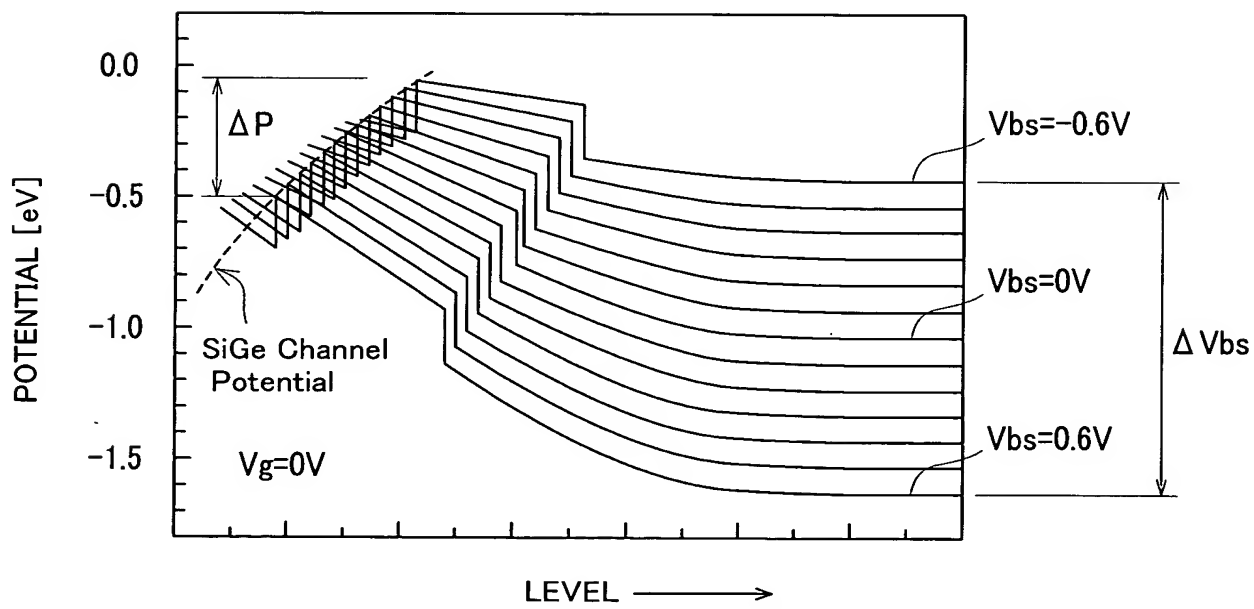


Fig. 2(c)





**Fig. 3 (a)**



**Fig. 3 (b)**

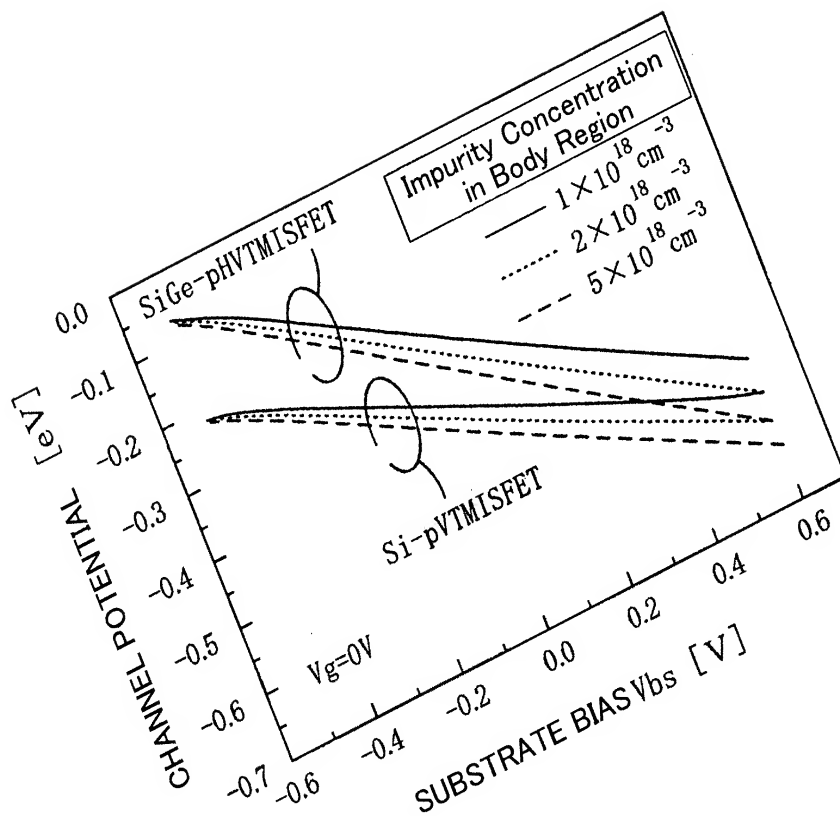


Fig. 4

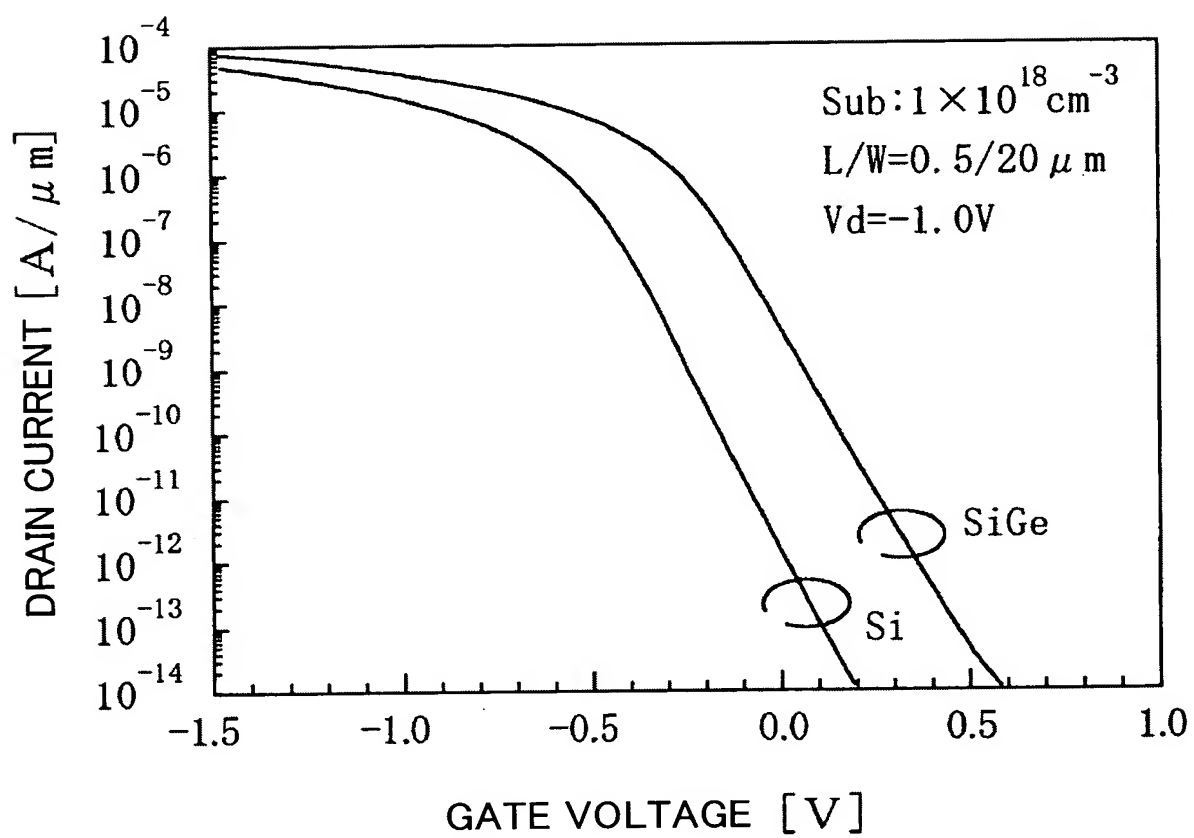


Fig. 5

Fig. 6(a)

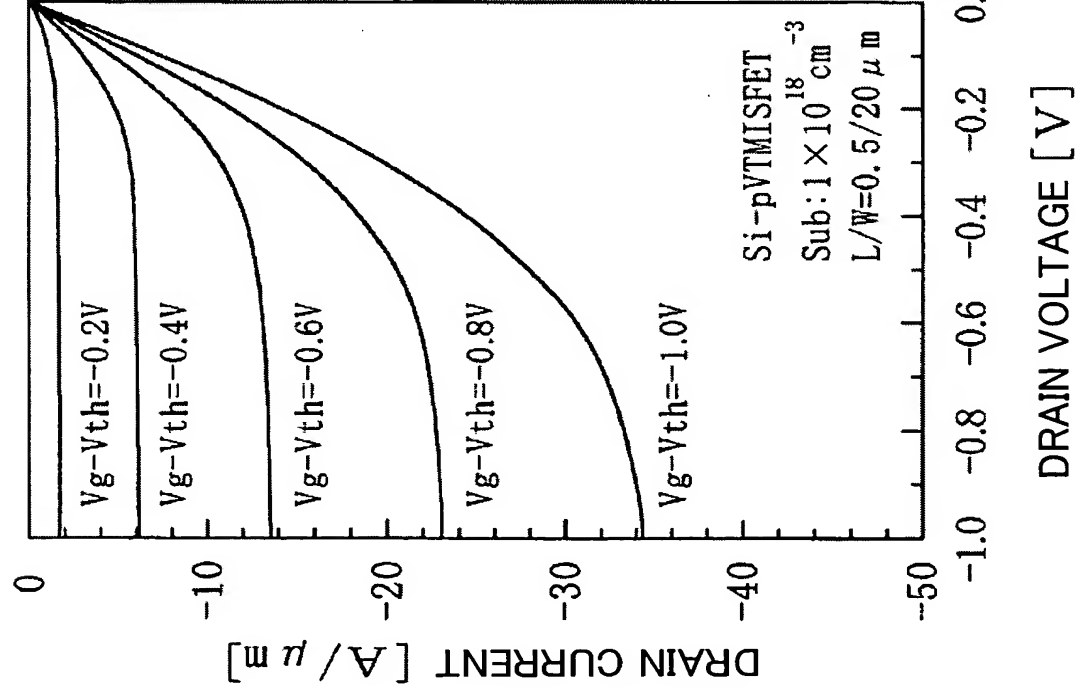
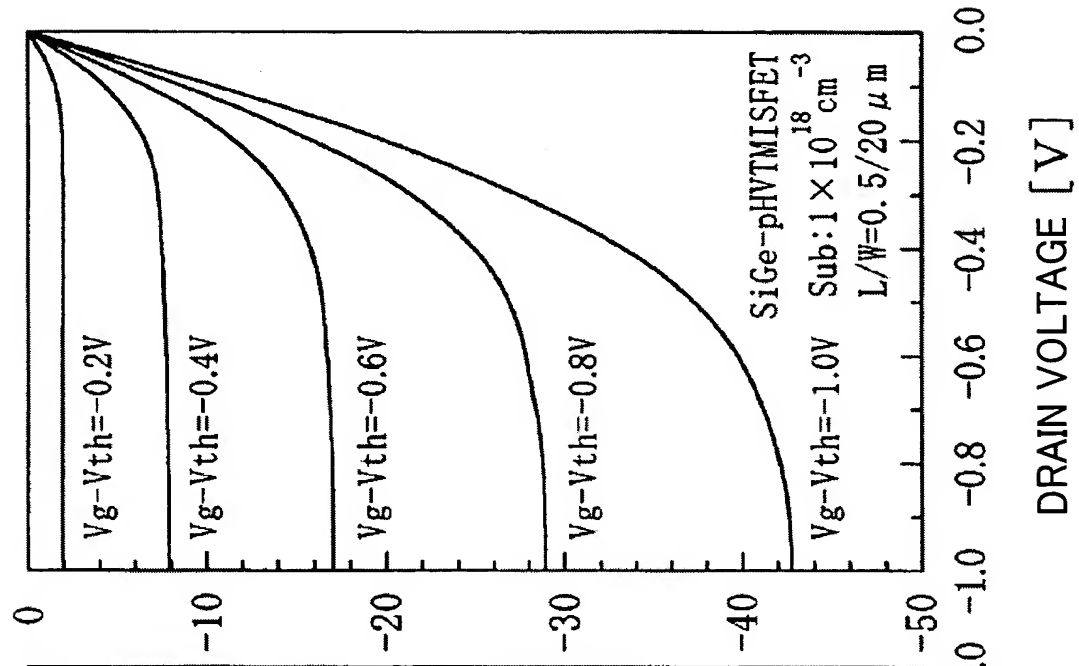


Fig. 6(b)



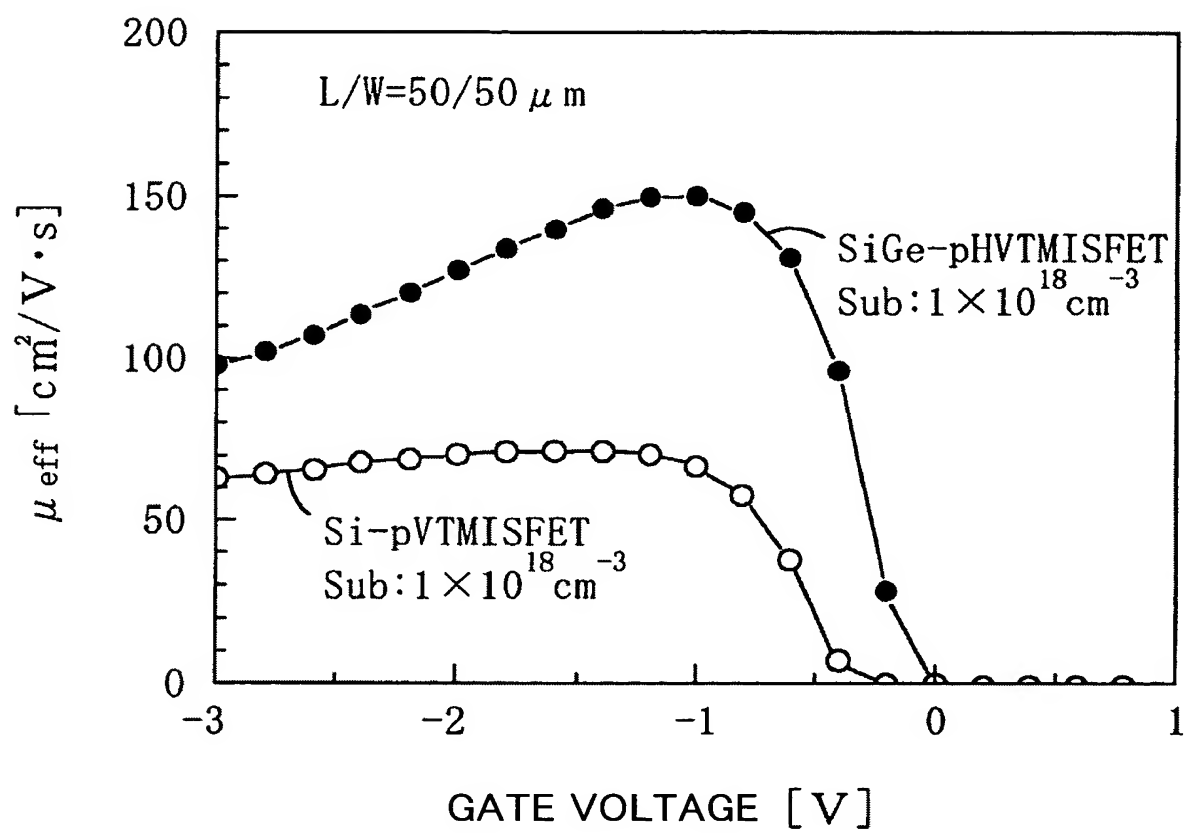


Fig. 7

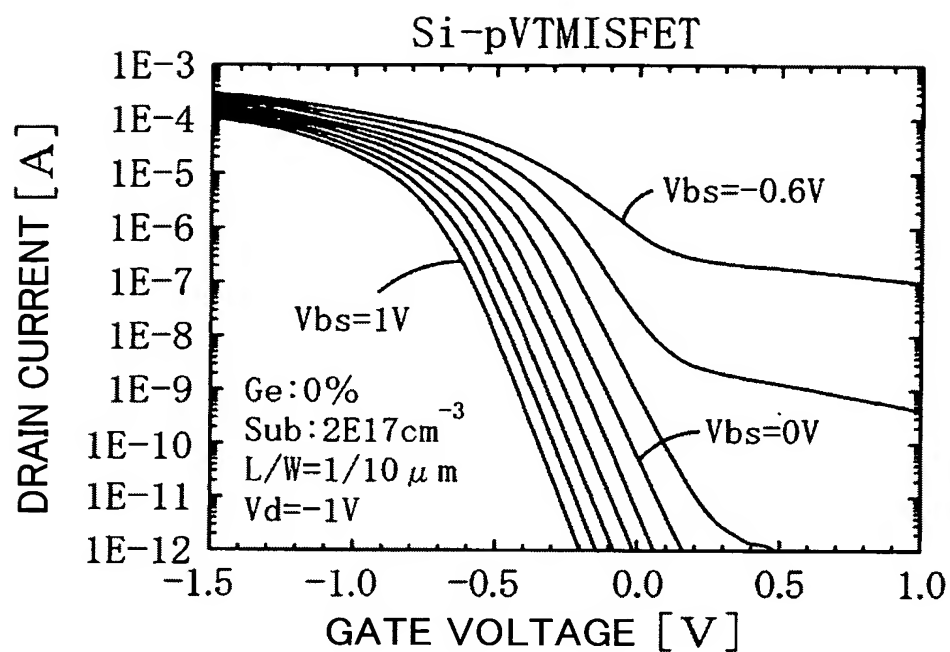


Fig. 8 (a)

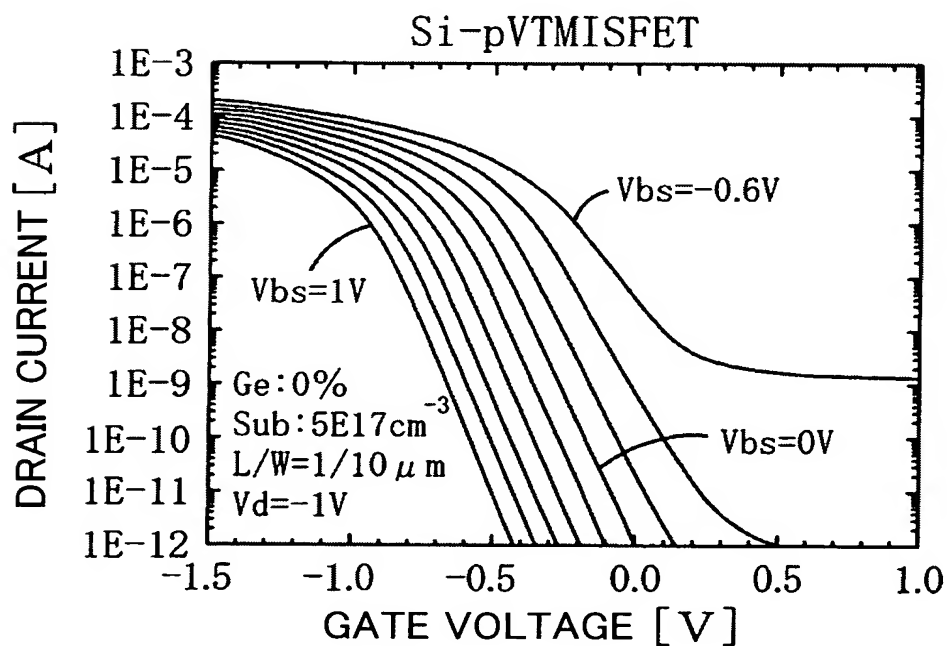
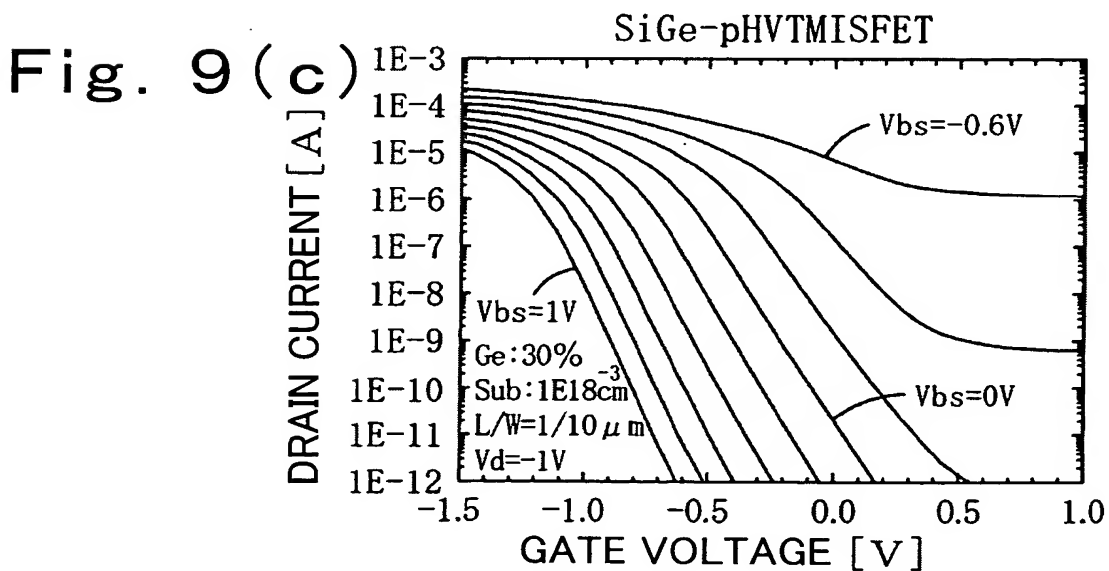
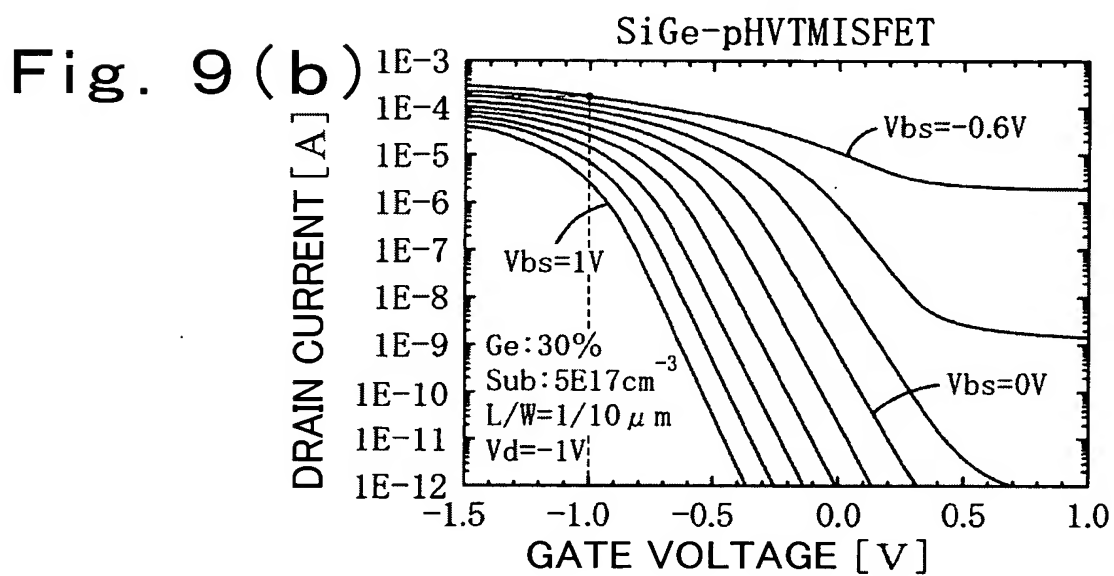
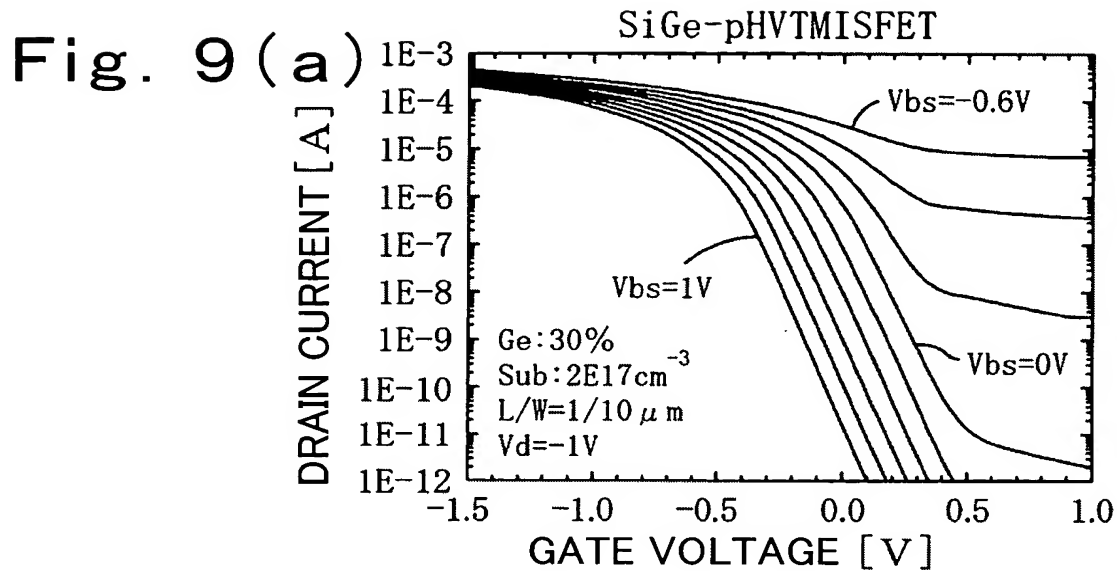


Fig. 8 (b)





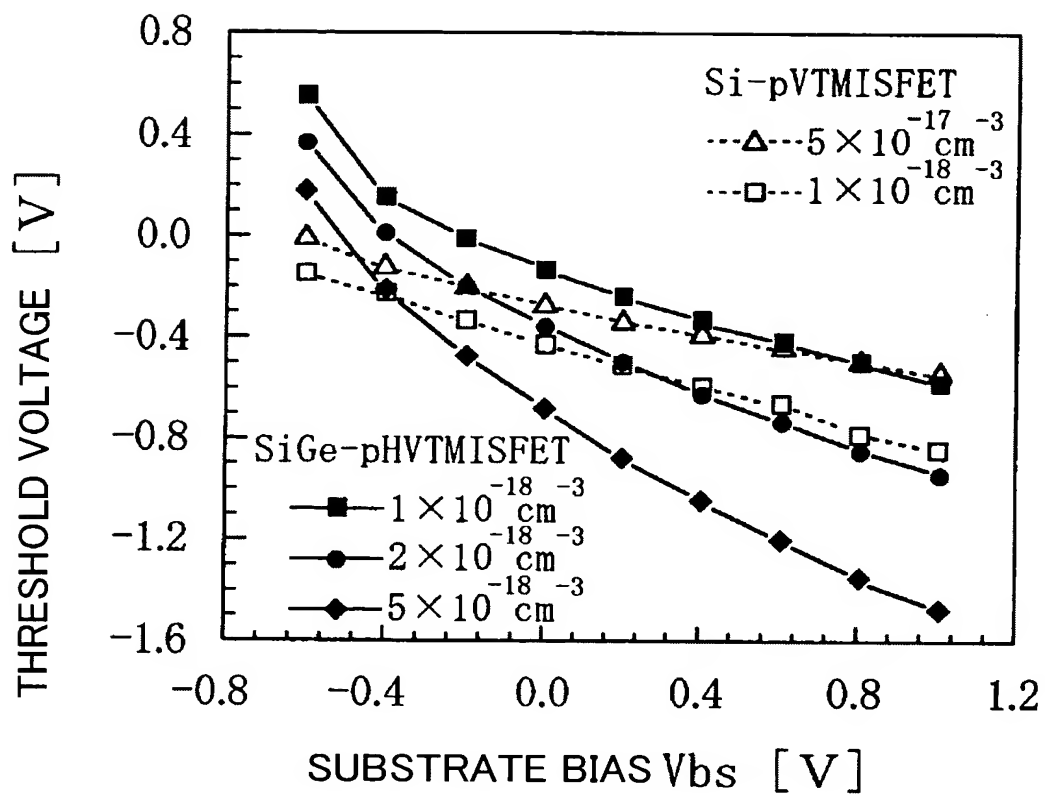


Fig. 10

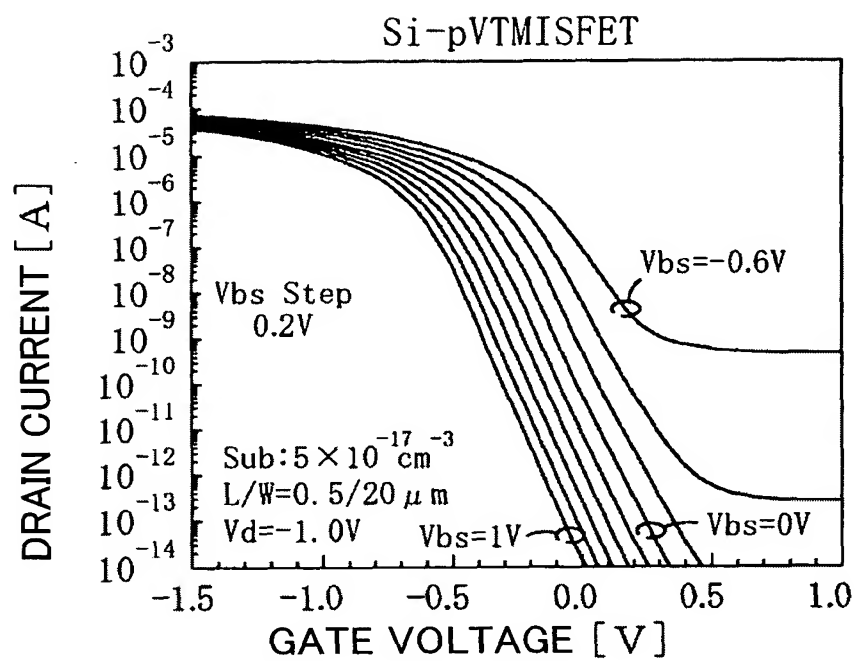


Fig. 11 (a)

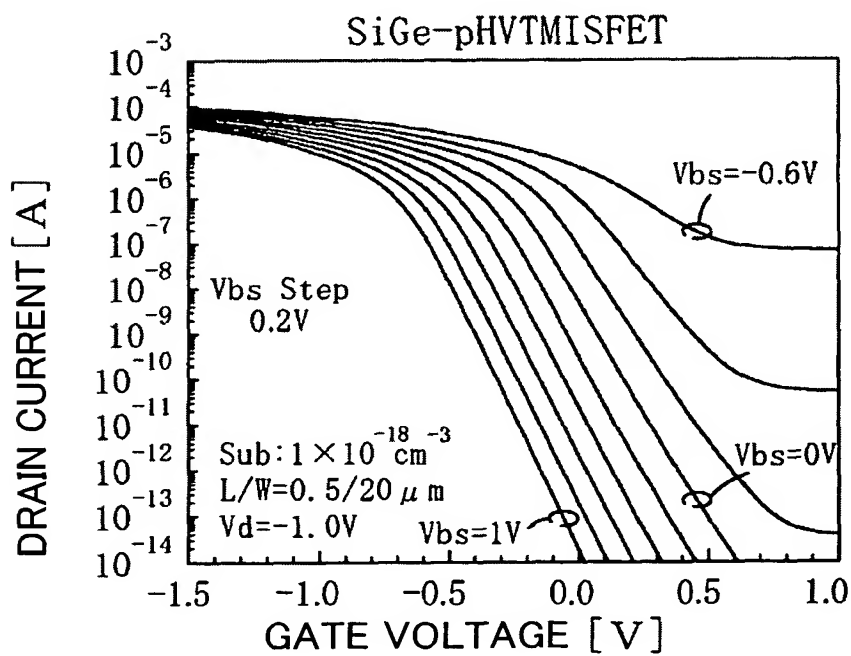


Fig. 11 (b)

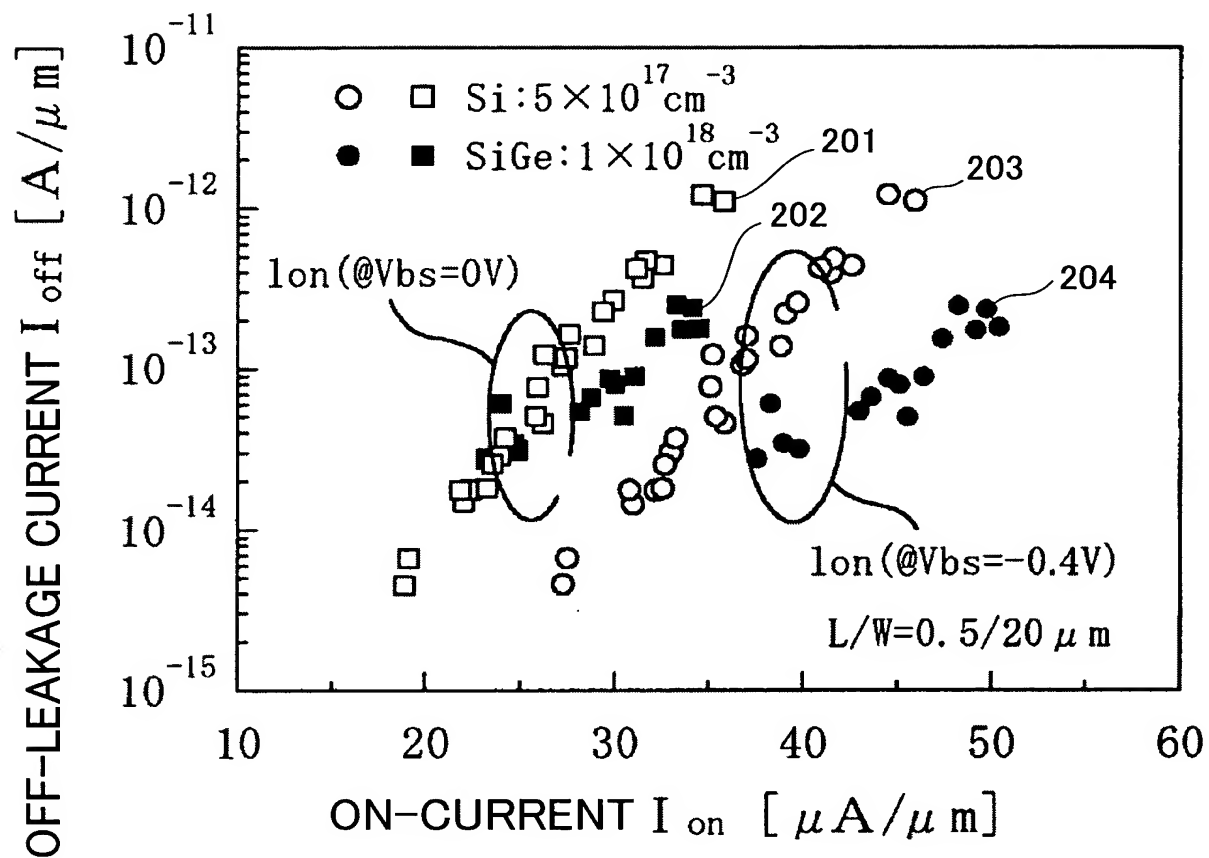


Fig. 12

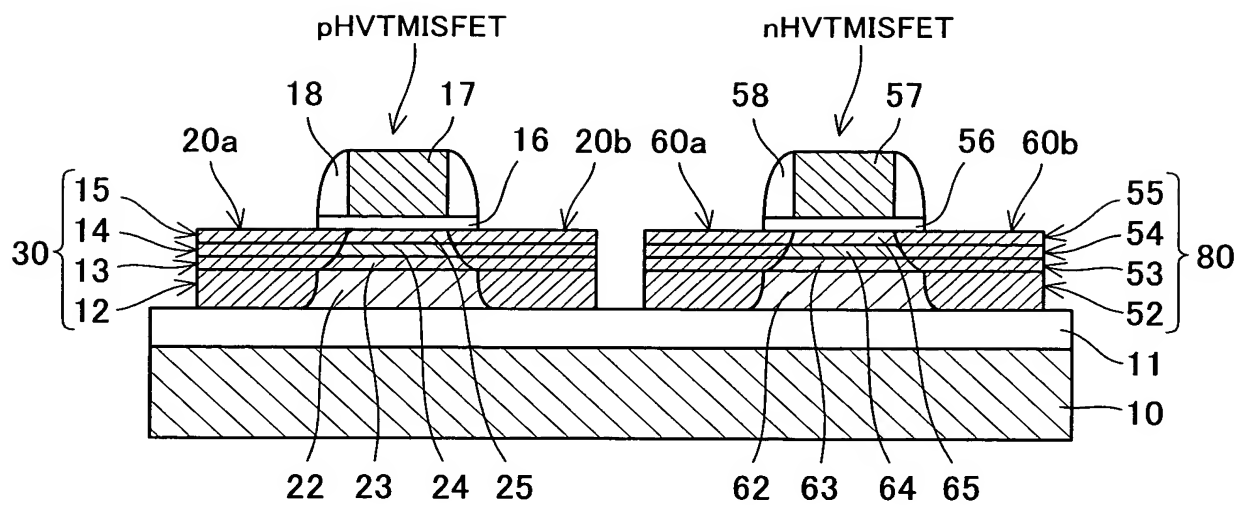


Fig. 13(a)

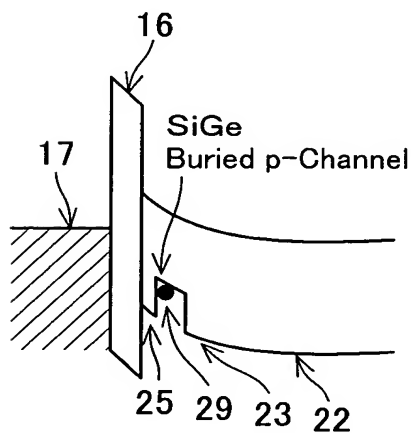


Fig. 13(b)

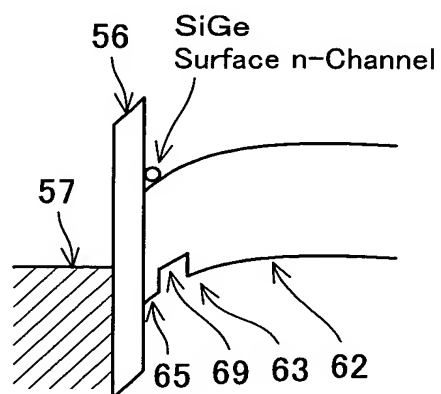


Fig. 13(c)

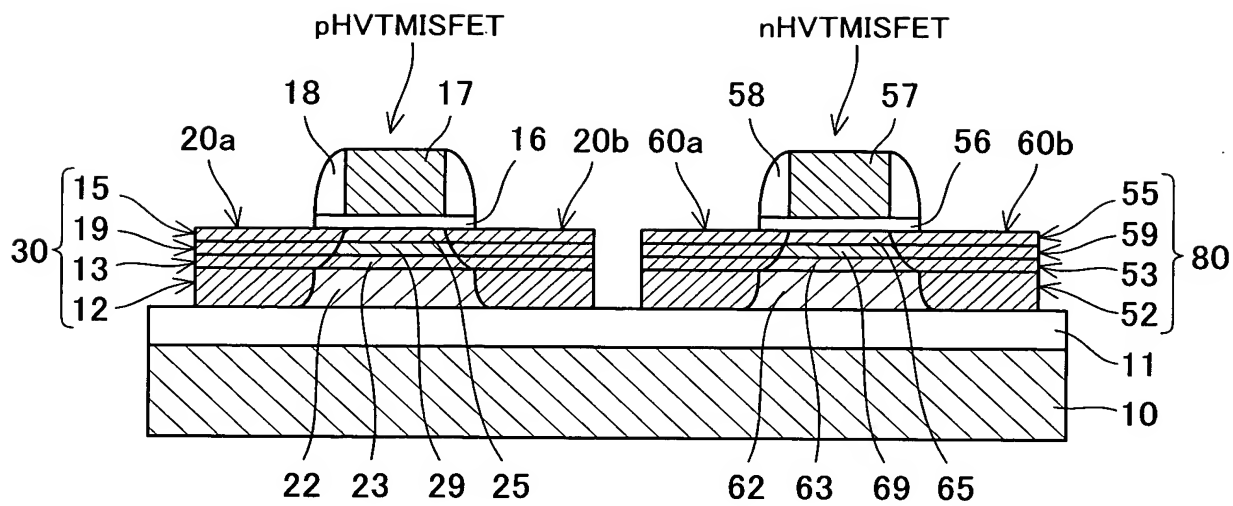


Fig. 14(a)

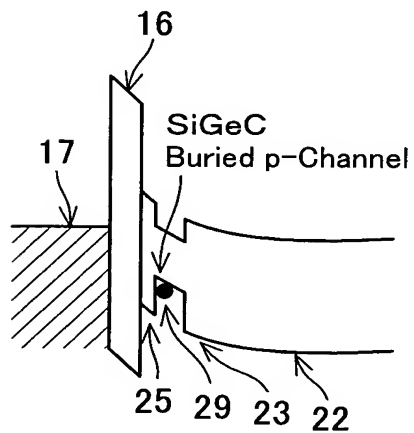


Fig. 14(b)

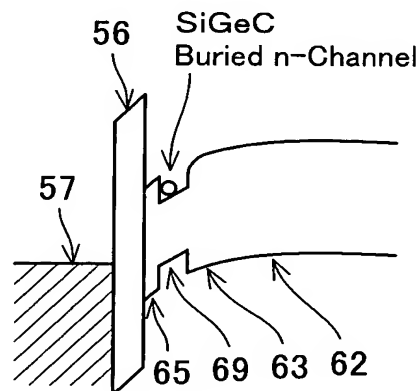


Fig. 14(c)

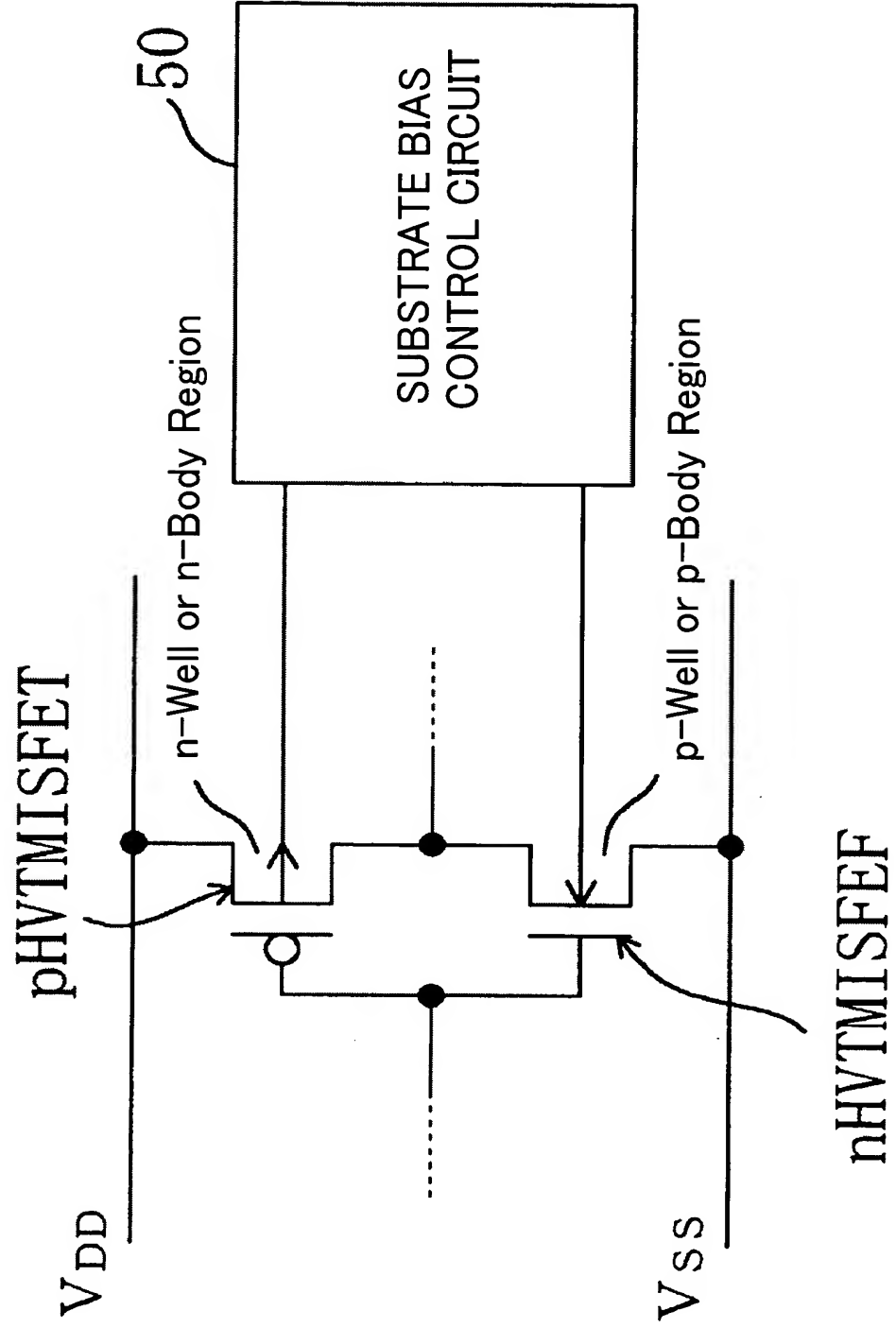


Fig. 15

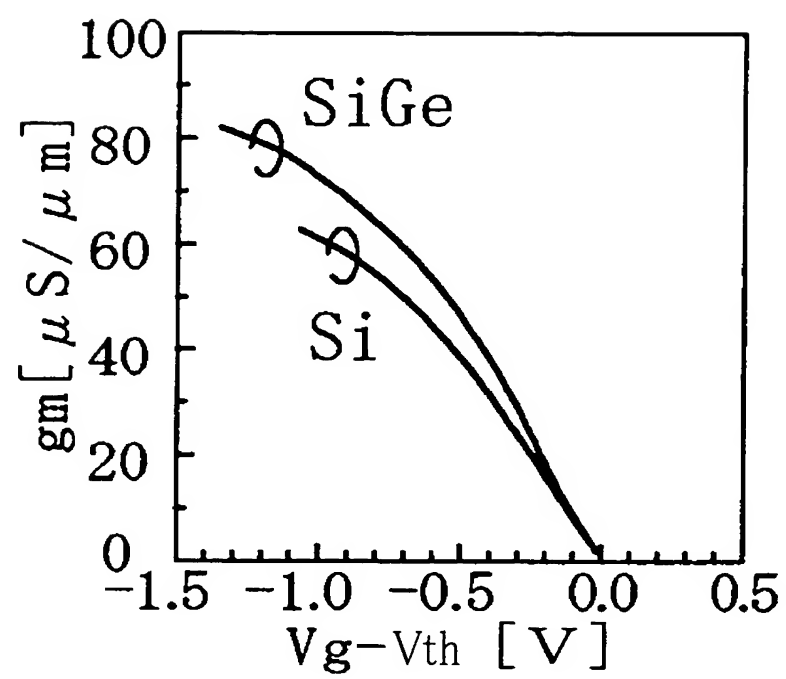


Fig. 16



		THRESHOLD VOLTAGE [V]				
		Si-pVTMISFET	Si-pVTMISFET	SiGe-pHVTMISFET	SiGe-pHVTMISFET	SiGe-pHVTMISFET
		5E17cm <sup>-3</sup>	1E18cm <sup>-3</sup>	1E18cm <sup>-3</sup>	2E18cm <sup>-3</sup>	5E18cm <sup>-3</sup>
SUBSTRATE BIAS VOLTAGE [V]	1	-0.540	-0.842	-0.575	-0.942	-1.480
	0.8	-0.494	-0.778	-0.499	-0.842	-1.350
	0.6	-0.444	-0.660	-0.419	-0.733	-1.200
	0.4	-0.392	-0.588	-0.332	-0.619	-1.044
	0.2	-0.335	-0.510	-0.237	-0.494	-0.874
	0.	-0.273	-0.427	-0.132	-0.355	-0.685
	-0.2	-0.202	-0.334	-0.008	-0.195	-0.470
	-0.4	-0.120	-0.228	0.154	0.010	-0.212
	-0.6	-0.009	-0.148	0.559	0.376	0.177
SUBSTRATE BIAS COEFFICIENT UNDER REVERSE BIAS $\gamma_1$		-0.298	-0.403	-0.500	-0.660	-0.898
SUBSTRATE BIAS COEFFICIENT UNDER FORWARD BIAS $\gamma_2$		-0.383	-0.498	-0.715	-0.913	-1.183
SUBSTRATE BIAS COEFFICIENT NEAR 0V $\gamma_0$		-0.333	-0.440	-0.573	-0.748	-1.010
SUBSTRATE BIAS COEFFICIENT RATIO $\gamma_2/\gamma_1$		1.286	1.236	1.430	1.383	1.318

$$\gamma_1 : (V_{th}(V_{bs}=0V) - V_{th}(V_{bs}=-0.4V)) / (0 - (-0.4))$$

$$\gamma_2 : (V_{th}(V_{bs}=-0.4V) - V_{th}(V_{bs}=0V)) / (-0.4 - 0)$$

Fig. 17